

## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A yeast cell comprising a nucleic acid sequence encoding a mutated, heterologous G protein-coupled receptor, wherein the mutation is a deletion mutation in ~~an intracellular domain of the G protein-coupled receptor~~ (1) the 3<sup>rd</sup> intracellular loop resulting in a 44 amino acid third intracellular loop comprising 22 residues proximal to the 5<sup>th</sup> and the 6<sup>th</sup> transmembrane domains or (2) the C-terminus, said mutation improving the function of said heterologous G protein-coupled receptor by causing it to couple more efficiently with a heterotrimeric G protein compared to a wild-type form of the heterologous G protein-coupled receptor, and wherein the mutated G protein-coupled receptor is selected from the group consisting of a muscarinic acetylcholine receptor, a cholecystokinin CCKB receptor, a somatostatin receptor, an ~~an~~  $\alpha$ -2A-adrenergic receptor, and a serotonin receptor.

2. (previously presented) The yeast cell according to claim 1, wherein the mutation promotes agonist stimulated growth, and wherein the agonist is a G protein-coupled receptor agonist.

3. (previously presented) The yeast cell according to claim 2, wherein the mutation results in an improved coupling between receptor and a chimeric G protein or failure of the receptor to interact with cell desensitization or sequestration-internalization machinery or proper plasma membrane localization.

4. (canceled)

5. (previously presented) The yeast cell according to claim 1, wherein the deletion is a point mutation.

6. (canceled)

7. (currently amended) The yeast cell according to claim ~~[[6]]~~ 1, wherein the G protein-coupled receptor is selected from the group consisting of a muscarinic acetylcholine receptor~~[[,]]~~ and a cholecystokinin CCKB receptor, ~~and an alpha-2A adrenergic receptor.~~

8. (canceled)

9. (previously presented) The yeast cell according to claim 1, wherein the muscarinic acetylcholine receptor is a rat M3 muscarinic acetylcholine receptor or a *D. melanogaster* muscarinic acetylcholine receptor.

10-19. (canceled)

20. (previously presented) A method for screening compounds capable of binding to G protein-coupled receptors comprising:

- (a) subjecting the yeast cell according to claim 1 to a test compound; and
- (b) measuring the effect of the test compounds on cell growth.

21. (currently amended) A yeast cell comprising a heterologous G protein-coupled receptor, wherein the G protein-coupled receptor has a deletion in ~~an intracellular domain~~ the 3<sup>rd</sup> intracellular loop resulting in a 44 amino acid third intracellular loop comprising 22 residues proximal to the 5<sup>th</sup> and the 6<sup>th</sup> transmembrane domains, said deletion improving the function of said heterologous G protein-coupled receptor by causing it to couple more efficiently with a heterotrimeric G protein as compared to a wild-type form of the heterologous G protein-coupled receptor.

22. (previously presented) The yeast cell according to claim 21, wherein the deletion promotes agonist stimulated growth, and wherein the agonist is a G protein-coupled receptor agonist.

23. (previously presented) The yeast cell according to claim 22, wherein the deletion results in improved coupling between the heterologous G protein-coupled receptor and a heterotrimeric G protein or failure of the heterologous G protein-coupled receptor to interact with cell desensitization or sequestration-internalization machinery or proper plasma membrane localization.

24-27. (canceled)

28. (previously presented) A method for screening compounds capable of binding to G protein-coupled receptors comprising:

- (a) subjecting the yeast cell according to claim 21 to a test compound; and
- (b) measuring the effect of the test compound on yeast cell growth.

29. (canceled)